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United States And Japan Ink FSX Agreement

The United States and Japan signed an agreement November 29 that formally launches joint development of Japan's next-generation fighter support aircraft, dubbed FSX, but problems probably will impede timely implementation. Japanese and American defense contractors have yet to resolve differences concerning which country will develop which part(s) of the aircraft. In addition, there are rumblings in Congress that this precedent-setting project will further undermine the U.S. defense industrial base. Legislators reportedly are concerned that the United States all but "gave away the store" in allowing Japan access to leading-edge aerospace technologies. They also believe that the Defense Department short-circuited the requisite assessment of the agreement's potential economic effects by not bringing the Commerce Department more fully into the decisionmaking process.

Even if General Dynamics and MHI have a meeting of the minds, Congress may prove disruptive. The memorandum of understanding is bound to act as a lightning rod for legislators concerned that weapons development arrangements with U.S. allies can hurt domestic industry by allowing foreign competitors access to leading-edge technologies. Early spring hearings are expected to address whether the U.S. defense industrial base is declining. Since the memorandum is not a treaty, Congress cannot disapprove it. However, if legislators feel the FSX deal ultimately would undermine U.S. industrial competitiveness, they could try to erect roadblocks, such as pressuring the executive branch to deny an export license for the F-16 technical specifications.

There also is concern on Capitol Hill that the Pentagon ran roughshod over Commerce in negotiating the memorandum. A provision of the FY 1989 defense authorization act requires DOD to consult with Commerce before signing memoranda of understanding. Although the Pentagon reportedly briefed Commerce on the nature of the agreement, Commerce contends that it was not given a copy of the actual document. Thus, legislators may propose measures that would tighten the reins on the Pentagon by requiring additional oversight of all memoranda of understanding, possibly including the FSX.

Barbara Wanner

Housing Market Weakens In Japan

For years, Japanese dwellings have been denigrated as "rabbit hutches," a foreign observer's famous phrase that made an indelible impression on the Japanese consciousness. Improving the quality of Japanese housing has been a goal of one Japanese government after another, but for years progress was slow. Between 1981 and 1983 residential construction languished (see Table).

By some measures housing starts began picking up in 1984. In 1987 the pace quickened dramatically after Tokyo adopted an economic stimulus package designed in part to offset weak external demand resulting from the yen's appreciation. Expansionary monetary policies and other measures were designed to shift the focus of economic growth to domestic demand, including housing. Private residential construction soared on cue, arguably helped along by years of pent-up demand, and played an important role in the early stages of Japan's current economic expansion. Private housing investment surged 20.6 percent in price-adjusted terms and contributed a full percentage point to 1987's real gross national product growth of 4.3 percent.

Linkages to the rest of the economy suggest that the figures may, if anything, understate the role of residential construction in economic growth in 1987 and early 1988. For example, both buyers and renters need to furnish their new homes, thereby creating demand for furniture and appliances. Aggregate consumer demand also gets a boost as construction firms and workers spend their proceeds.

About half the new units built in Japan each year are rental units. As the table shows, rental construction has been especially strong in recent years, more than doubling in annual starts between 1983 and 1987. Starts of owner-built units, while up 14.5 percent in 1987, still trailed 1981 and 1982 levels.

Housing Starts in Japan

(year-to-year percent change)

	Rental Units	Owner-Built Units	Total
1981	-4.7%	-7.3%	-9.1%
1982	3.8	4.7	-0.5
1983	25.1	-18.0	-0.8
1984	17.7	-1.9	4.4
1985	13.5	-1.1	4.1
1986	22.5	2.7	10.4
1987	33.0	14.5	22.7
1988 January	16.3	27.2	19.0
February	17.2	21.5	17.1
March	20.3	3.3	14.8
April	6.9	-12.9	2.0
May	12.0	-13.4	4.2
June	4.0	-9.5	1.9
July	-3.0	-10.9	-1.9
August	0.2	-9.7	2.2
September	-11.8	-11.8	-7.0
October	-11.1	-11.2	-8.5

Note: The total figure includes developer-built units and other.

Source: Ministry of Construction

Now the bloom is off the rose of all kinds of housing, probably a result of high land prices and the satisfaction of some bottled-up demand. By August monthly starts were up a scant 2.2 percent compared to August 1987. The news for September and October was even worse, with starts down 7 percent in September and 8.5 percent in October.

Will housing, which played an important role in pulling Japan out of the high yen doldrums, repeat the pattern in reverse? The latest GNP figures regarding housing are not encouraging. The decline in seasonally adjusted private housing investment in the April-June quarter accounted for two-thirds of the 0.8 percent dip in the quarter-to-quarter real economic growth rate, while the housing sector contributed only one-sixth of July-September's 2.2 percent expansion.

Katsushige Mita, president of Hitachi, Ltd., which counts home appliances among its many products, is among the business leaders worried about the effects of weakening housing demand on their companies. While consumer spending and housing are less related in Japan than they are in the United States, where the houses are larger and the furnishings more extensive, a serious slump in Japanese housing investment could nudge consumer spending downward.

The consensus, however, is that this will not be a problem. Most forecasters expect the economy to continue on a steady expansion path. Consumer spending is expected to rise, with or without the help of housing. For the Japanese living in less than world-class houses, the home construction slump suggests they will have to postpone the day they move into their dream home, but at least they will be able to afford the gadgets and furnishings that will give their current dwelling a fresh look.

Douglas Ostrom

No Pension Until Age 65, Japanese Panel Recommends

After urging companies for years to raise the retirement gate only after an employee turns 60 years old -- instead of the once-traditional pasturing age of 55 -- Tokyo figures the time has come to push a new retirement age, 65. Although the government set 65 as its informal target for retiring workers when Japan's pension laws were revised in 1985, employers have moved slowly toward that ideal. In Japan the age at which retirement is required often is earlier than the age for pension eligibility. Thus, in trying to move the age at which a person can get a pension, the government indirectly is promoting longer work lives. The revised law set 65 as the age when some workers received "basic benefits" under the national pension scheme, but 60 was the golden age for others, depending on their jobs. The changes also formalized another tier of benefits, which are earnings-related -- similar to American company or union pensions.

Now Tokyo has received a recommendation intended as backdoor encouragement for organizations to keep employees on the job until age 65. A panel formed by the Health and Welfare Ministry has recommended a phased-in increase in the age at which workers can receive national pension benefits (the equivalent of America's social security). By the year 2010 all men would have to be age 65 before they receive the benefits. The law sets 2015 as the year in which female pension recipients would have to be at least 65.

Labor unions, which had long been among those clamoring for the retirement age to be boosted to 60, are reluctant to endorse delayed pension payouts because more than one-third of the nation's workers still face job provisions requiring retirement or a downgraded job status at an age younger than 60. Nihon Keizai Shimbun reported that a leader of the Japanese Private Sector Trade Union Conference (Rengo) said 40 percent of all Japanese companies have yet to boost their retirement age to 60 or more. If the national pension were not available until age 65 -- and if a retiree had no company pension -- personal savings might be depleted before that age. The newspaper noted, however, that the government is likely to act without labor's consensus, partly out of concern about the drain on the pension fund caused by an increasing number of senior citizens eligible for benefits.

Japan's retirement system may sound strange to Americans, accustomed to the age of 65 being a typical time to hang up the work gloves. At 65 full social security payments generally become available, although lower payments are available at 62 and exceptions are made for those who retire from disability at an earlier age. In Japan, however, retirement fits into a multilayered employment system that varies depending on the size of the company and the person's role within that company. Since large Japanese firms traditionally have paid and offered promotions based on seniority, a company with too many "senior" employees is paying larger salaries than younger-oriented firms; in

addition, it has little room to promote. Thus, mandatory retirement rules lend flexibility to a firm that is otherwise locked into a rigid employment system.

But retirement does not necessarily mean that an employee quits working. One option for the retiree may include working for the old firm in a reduced capacity and at reduced pay, rather like a professional football player moving into a subordinate coaching position. Or perhaps the ex-company worker might move to a smaller company, sometimes one receiving a subsidy from either the government or his former employer to find a position for him. If the gap between his retirement date and the start-up of his national pension benefits is too wide and if the retiree has no offers from other companies, he may try to set up his own business with financial assistance from the government.

By pushing a delayed retirement age of 65, Tokyo is attempting to plan for a future where those over the age of 60 make up one-fourth of the population (see JEI Report No. 12A, March 27, 1987). The government actually faces a triple problem since all those who end up discharged because of their age also are eligible to receive basic pension benefits, yet fewer workers will be contributing to the annuity pool. In fact, some forecasts say that as few as two workers will support each retired person in the 21st century compared to figures ranging from five to seven workers per retiree now.

Japan's revision of the national pension program in 1985 addressed the problem of a larger pool of recipients in part by providing for lower payouts, from roughly 83 percent of the worker's average annual pay (excluding bonuses) to 68 percent for workers with at least 40 years of participation in the system. By delaying the payment of basic pension benefits until age 65, Tokyo would control costs even further. The Nihon Keizai Shimbun article also noted that more people are expecting to face added contributions to the fund -- an estimated 14.6 percent of their pay compared to the current 12.4 percent.

Tokyo's head-on confrontation of Japan's pension situation has led at least one U.S. researcher, James H. Schulz of Brandeis University, to look at Japan's responses to see if the United States can learn any lessons. Mr. Schulz, whose work was funded by a grant from the Administration on Aging in the Department of Health and Human Services, looked at Japanese laws on retirement and pension programs in addition to the variety of programs used to help people keep working who want to work. With life expectancy in Japan the highest in the world at 75.6 years for men and 81.4 years for women, workers discharged at age 60 face many still-productive years in retirement.

Pat Murdo

Washington And Tokyo Bolster Superconductor Research

As the initial excitement over the 1986 discovery of high-temperature superconductors fades, both Tokyo and Washington are taking steps to speed the commercialization of this new technology. Broad application of these materials, which conduct electricity with no loss of energy at economical temperatures, promises to revolutionize almost every facet of everyday life. The commercial potential is clearly very great, and both the United States and Japan see HTS technology as critical to industrial leadership in the next century.

Despite the great potential, American companies have been cautious in allocating research and development funds for HTS projects. The financial risks

and technical uncertainties are apparently great enough to dissuade most American corporations from plunging into the field. A handful of large U.S. corporations with deep pockets and some small venture capital start-ups represent the American private sector's efforts in this emerging technology. The opposite situation exists in Japan. A wide range of companies has seized on HTS materials as the key to a competitive edge, and they have avidly redistributed research budgets accordingly. Studies by the Office of Technology Assessment, an arm of Congress, and the National Science Foundation, an independent agency, show Japan investing far more toward commercializing HTS materials than the United States. NSF estimates that Japanese companies are outspending U.S. companies in this area by $146 million to $97 million in fiscal year 1988, and that 82 percent of all Japanese companies surveyed were working on HTS processing techniques.

In response to this situation, Congress passed legislation this fall that could hasten HTS commercialization in the United States. The law, which President Reagan quickly signed, is aimed at improving the flow of information between government research programs and private companies (see Table 1). In particular, the research conducted at national laboratories will be made available for commercialization. Research at these facilities is defense-oriented, but many commercial spinoffs are certainly possible. By attempting to forge a closer relationship between government and industry in precommercial research and development, Washington hopes to cure an apparent U.S. weakness in turning basic discoveries into final products.

With private Japanese firms carrying the ball on commercialization of HTS materials, the Ministry of International Trade and Industry is focusing on areas that are technologically or financially riskier or require a broader perspective. MITI's FY 1989 budget request for HTS research illustrates this focus. MITI plans to devote funds to basic research as well as efforts to develop international standards to measure the efficiency of HTS materials, exploratory surveys on potential uses for HTS materials, and international cooperative research and development (see Table 2).

It is clear that both Washington and Tokyo see the need to support private-sector efforts in this field. Whether their efforts will bear fruit -- and how much international cooperation takes place -- will not be known for several years.

Jon Choy

Table 1: Summary of the National Action Plan on Superconductivity Research and Development*

I. The Director of the Office of Science and Technology Policy shall establish a five-year National Action Plan on Advanced Superconductivity Research and Development. The plan shall include:

1. Research goals and priorities for each agency involved.

2. Assignment of research responsibilities among participants.

3. Recommendations on superconductivity research funding levels over the entire five-year period.

4. Proposals for participation by industry and academia in the planning and implementation of the action plan.

II. Participants

1. Department of Energy - The Secretary of Energy shall conduct a superconductor research and development program; shall submit regular reports on technology transfer activities; and shall make recommendations regarding improving the transfer of technology between government and industry, and in the management of research results made at national laboratories.

2. National Institute of Standards and Technology - NIST shall promote fundamental research and materials standards to accelerate the use and application of new superconductors. The Superconductivity Center Focusing on Electronic Applications shall be fully utilized.

3. National Science Foundation - The NSF shall promote fundamental research in pursuance of this Act.

4. National Aeronautics and Space Administration - NASA shall utilize all existing programs to promote commercial applications of high-temperature superconductors, including applications relating to thin-film technology, communications, sensors, space power and propulsion.

5. Department of Defense - The Secretary of Defense shall give emphasis to fundamental research, materials processing, and applications of new superconducting materials. In conducting research, DOD shall:

a. Systematically define the engineering parameters for high-temperature superconductors.
b. Conduct the necessary development, engineering and operational prototype testing considered appropriate to its mission.

The Defense Advanced Research Projects Agency - DARPA shall augment basic and applied superconductivity research in other federal agencies and industry and develop criteria for operation prototype testing within DOD.

III. International Cooperation

The president shall establish a program of international cooperation in basic superconductor research. It shall include the exchange of basic information and data, as well as the development of international standards for the use and application of these materials.

IV. Technology Transfer

1. All federal departments and agencies shall conduct technology transfer activities as appropriate to:

a. Complement basic superconductivity research by promoting the rapid development of manufacturing and processing technologies necessary for commercialization.
b. Promote collaborative arrangements and consortia of industry (including small business) in order to lower the barriers to deployment of advanced high-temperature superconductor technology. The consortia can include universities and independent research organizations.

2. The Director of OSTP, in collaboration with the Secretaries of Commerce and Energy, shall identify those federal policies and regulations which impede the ability of the private sector to undertake long-term investment programs to commercialize superconductivity applications.

*From the National Superconductivity and Competitiveness Act of 1988 (HR 3048).

Table 2: Outline of MITI's Proposed FY 1989 Superconductivity Research Budget

(in millions of yen)

Program	General Account	Special Account*	Total
1. Development of high- and room-temperature superconducting materials and new manufacturing/process techniques	Y560	Y800	Y1,370
a. Next Generation Basic Industrial Technologies			
Current HTS materials	460	800	1,270
New HTS materials	60	0	60
b. HTS research at national laboratories	40	0	40
2. Development of HTS materials for electronics	880	0	880
a. Next Generation Basic Industrial Technologies	610	0	610
b. Large-scale manufacturing technologies	260	0	260
c. International cooperation on HTS; standards harmonization	10	0	10
3. Broadening the use of HTS materials			
a. Large-scale energy technology	90	1,910	2,000
4. Surveys of HTS research and applications	0	220	220
a. Energy storage and machinery technologies	0	80	80
b. Electricity generation technologies	0	140	140
5. International joint development of HTS**	10	0	10
Total	1,540	2,940	4,448

*Special Account for the Promotion of Electric Power Resources Development.
**Identical program as 2c but funding is split for budget purposes.

Note: Figures may not add due to rounding.

Source: Ministry of International Trade and Industry

Trade and Payments Data

(in millions of dollars unless otherwise indicated)

	1986	1987	January-September 1987	January-September 1988	July 1988	August 1988	September 1988
Japan's Balance of Payments							
Trade Balance	$92,827	$96,386	$71,996	$67,383*	$8,764*	$6,343*	$8,807*
Exports (f.o.b.)	205,591	224,605	162,938	188,829*	22,810*	20,417*	22,698*
Imports (f.o.b.)	112,764	128,219	90,942	121,446*	14,046*	14,074*	13,891*
Current Account Balance	85,845	87,015	64,913	56,064*	6,480*	4,991*	7,605*
Long-Term Capital (net)	-131,461	-136,532	-98,597	-93,661*	-18,409*	-12,809*	-10,745*
Overall Balance	-44,767	-29,545	-11,119	-29,259	-15,837	-5,571	3,158
International Reserves (end of period)	42,239	81,479	72,139	91,151	88,908	90,222	91,151
Japan's Customs Clearance Trade							
Trade Balance	82,743	79,706	59,547	53,494	7,156	4,935	7,753
Exports (f.o.b.)	209,151	229,221	166,250	192,668	23,155	20,854	23,179
Cars	32,945	35,693	26,379	28,170	3,422	2,687	3,275
Steel	12,706	12,610	9,052	10,948	1,304	1,316	1,295
Imports (c.i.f.)	126,408	149,515	106,703	139,174	15,999	15,919	15,426
Crude Oil	19,481	20,663	14,892	14,825	1,796	1,339	1,168
Manufactured Products	52,781	65,961	42,712	62,833	7,095	7,395	7,444
Japan-U.S. Trade							
Trade Balance	51,401	52,090	37,980	33,326	4,492	3,249	4,656
Exports (f.o.b.)	80,456	83,580	60,810	64,528	7,961	6,985	8,114
Imports (c.i.f.)	29,054	31,491	22,830	31,202	3,470	3,736	3,458
Yen-Dollar Exchange Rate (average for period)	Y168.52	Y144.64	Y143.00	Y134.44	Y133.07	Y133.63	Y134.44
U.S. Trade							
Trade Balance	-156,156	-171,217	-128,166	-102,396	-11,036	-12,741	-10,498
Exports (f.a.s.)	226,808	252,866	182,513	236,628	26,051	26,588	27,441
Imports (c.i.f.)	382,964	424,082	310,679	339,024	37,087	39,329	37,939
U.S.-Japan Trade							
Trade Balance	-58,575	-59,825	-44,321	-39,245	-4,436	-4,751	-4,084
Exports (f.a.s.)	26,882	28,249	20,218	27,943	3,229	3,267	3,245
Imports (c.i.f.)	85,457	88,074	64,539	67,187	7,665	8,018	7,329

*Preliminary

Japanese Economic Indicators

(percent change from year-earlier period unless otherwise indicated)

	1986	1987	January-September 1987	January-September 1988	July 1988	August 1988	September 1988
Discount Rate (end of period)	3.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Outstanding Money Supply	8.7%	10.4%	9.9%	11.4%	11.1%	10.9%	10.6%
Industrial Production	-0.2%	3.4%	1.8%	10.0%	7.9%	10.3%	9.3%
Manufacturing Operating Rate	-4.6%	0.1%	-1.9%	6.4%	5.7%	7.0%	6.5%
Number of Bankruptcies	-7.1%	-27.6%	-25.5%	-21.3%	-27.9%	-17.8%	-24.5%
Residential Construction Starts	10.4%	22.7%	22.1%	4.5%	-1.9%	-2.2%	-7.0%
Job Openings to Applications (ratio)	0.62	0.70	0.66	0.98	1.09	1.07	1.08
Nominal Wages	2.7%	1.9%	1.7%	3.4%	2.6%	6.2%	4.1%
Manufacturing Labor Productivity	1.9%	5.8%	2.5%*	12.7%*	n.a.	n.a.	n.a.
Wholesale Prices	-9.1%	-3.7%	-4.8%	-0.9%	-0.9%	-1.0%	-0.9%
Consumer Prices	0.6%	0.1%	-0.1%	0.5%	0.5%	0.7%	0.6%
Yen-Based Export Prices	-15.1%	-5.1%	-4.9%	-2.9%	-2.6%	-1.2%	0.6%
Yen-Based Import Prices	-35.8%	-8.3%	-11.2%	-3.8%	-4.3%	-5.4%	-3.8%

*Through June of each year only.

For Japan's most recent GNP figures, see JEI Report No. 37B, September 30, 1988.

STATISTICAL SUPPLEMENT